

# DECLEMENTION AND POWER OF ATTORNEY FOR PATENT APPLICATION (37 CFR 1.63)

Declaration
Submitted
with Initial
Filing

OR

Declaration
Submitted after Initial
Filing (surcharge
(37 CFR 1.16(e))
required)

Attorney Docket Number	42P17746		
First Named Inventor	Sigang Qiu		
CON	IPLETE IF KNOWN		
Application Number 1	10/655,094		
Filing Date S	September 3, 2003		
Art Unit			
Examiner Name			

### As a below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below, next to my name.

I believe I am the original and first inventor (if only one name listed below) or an original and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

METHODS AND APPARATUSES	FOR DETERMINING LOOP CHARACTERISTICS USI MODEM	NG AN EXTENDED VOI	ICE-BAND
			-
	(Title of the Invention)		
the specification of which			
is attached hereto.	<ul> <li>A control of the first of the f</li></ul>	` .	
OR			
was filed on (if applic	able):	•	
or <u>09/03/2003</u>	as United States Application Number PCT International Application Number	10/655,094	<del></del>
and was amended or	n	(if applicable)	

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment specifically referred to above.

I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application. I do not know and do not believe that the claimed invention was in public use or on sale in the United States of America more than one year prior to this application, nor do I know or believe that the invention has been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?
				☐ Yes ☐ No
		-		☐ Yes ☐ No
				☐ Yes ☐ No
				☐ Yes ☐ No
				☐ Yes ☐ No

I hereby appoint the persons listed on Appendix A hereto (which is incorporated by reference and a part of this document) as my respective patent attorneys and patent agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected herewith.

Direct all co	orrespondence to:	stomer Nu	mber	<b>08791</b> or ⊠		ence address below
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE	OR FIRST INVENTOR: A per	tition has been filed for this undersigned inventor
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	Raleigh, North Carolina 27617 US	

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	Raleigh, North Carolina 27613 USA		
Docket No. 42P177	746 -3-		

## Appendix A

I hereby appoint with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith, BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP, a firm including: William E. Alford, Reg. No. 37,764; Farzad E. Amini, Reg. No. 42,261; W. Thomas Babbitt, Reg. No. 39,591; Jordan M. Becker, Reg. No. 39,602; Michael A. Bernadicou, Reg. No. 35,934; Roger W. Blakely, Jr., Reg. No. 25,831; R. Alan Burnett, Reg. No. 46,149; Gregory D. Caldwell, Reg. No. 39,926; Cory G. Claassen, Reg. No. 50,296; Thomas M. Coester, Reg. No. 39,637; Mimi D. Dao, Reg. No. 45,628; Stephen M. De Klerk, Reg. No. 46,503; Daniel M. De Vos, Reg. No. 37,813; Sanjeet Dutta, Reg. No. 46,145; Tarek N. Fahmi, Reg. No. 41,402; Thomas S. Ferrill, Reg. No. 42,532; George L. Fountain, Reg. No. 36,374; Adam Furst, Reg. No. 51,710; Angelo J. Gaz, Reg. No. 45,907; Andre M. Gibbs, Reg. No. 47,593; James Y. Go, Reg. No. 40,621; Jason R. Graff, Reg. No. 54,134; Jeffery Scott Heileson, Reg. No. 46,765; James A. Henry, Reg. No. 41,064; Willmore F. Holbrow III, Reg. No. 41,845; Sheryl Sue Holloway, Reg. No. 37,850; George W Hoover II, Reg. No. 32,992; Eric S. Hyman, Reg. No. 30,139; Aslam A. Jaffery, Reg. No. 51,841; Walter T. Kim, Reg. No. 42,731; Eric T. King, Reg. No. 44,188; Steven Laut, Reg. No. 47,736; Suk S. Lee, Reg. No. 47,745; Gordon R. Lindeen III, Reg. No. 33,192; Jan Carol Little-Washington, Reg. No. 41,181; Joseph Lutz, Reg. No. 43,765; Michael J. Mallie, Reg. No. 36,591; Andre L. Marais, Reg. No. 48,095; Raul D. Martinez, Reg. No. 46,904; Paul A. Mendonsa, Reg. No. 42,879; Jonathan S. Miller, Reg. No. 48,534; Heather M. Molleur, Reg. No. 50,432; Richard A. Nakashima, Reg. No. 42,023; Thinh V. Nguyen, Reg. No. 42,034; Robert B. O'Rourke, Reg. No. 46,972; Daniel E. Ovanezian, Reg. No. 41,236; Philip A. Pedigo, Reg. No. 52,107; Marina G. Portnova, Reg. No. 45,750; Joseph A. Pugh, Reg. No. 52,137; Jon C. Reali, Reg. No. 54,391; James H. Salter, Reg. No. 35,668; William W. Schaal, Reg. No. 39,018; James C. Scheller, Reg. No. 31,195; Kevin G. Shao, Reg. No. 45,095; Stanley W. Sokoloff, Reg. No. 25,128; Judith A. Szepesi, Reg. No. 39,393; Edwin H. Taylor, Reg. No. 25,129; Lisa Tom, Reg. No. 52,291; John F. Travis, Reg. No. 43,203; Kerry D. Tweet, Reg. No. 45,959; Mark C. Van Ness, Reg. No. 39,865; Thomas A. Van Zandt, Reg. No. 43,219; Mark R. Vatuone, Reg. No. 53,719; Lester J. Vincent, Reg. 46,154; Chui-Kiu Teresa Wong, Reg. No. 48,042; and Norman Zafman, Reg. No. 26,250, my patent attorneys, and with the least the control of the Chze Koon Chua, 53,831; Brent Vecchia, Reg. No. 48,011 and Lehua Wang, Reg. No. 48,023, my patent agents, and the control of t with offices located at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800; with offices located at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800; with offices located at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800; with offices located at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800; with offices located at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800; with the california 90025 at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800; with the california 90025 at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800; with the california 90025 at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800; with the california 90025 at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800; with the california 90025 at 12400 Wilshire Boulevard, 90025 at 12400 Wilshire 90025 at 12400 Wilshi and James R. Thein, Reg. No. 31,710, my patent attorney. I also appoint Alan K. Aldous, Reg. No. 31,905; Rob Data Francisco, and the state of the st Anderson, Reg. No. 33,826; Jay P. Beale, Reg. No. 50,901; Shireen I. Bacon, Reg. No. 40,494; R. Edward Brake, Anderson Brake, Brak Glen B. Choi, Reg. No. 43,546; Kenneth Cool, Reg. No. 40,570; Ted A. Crawford, Reg. No. 50,610; Robert A. Diehl, A. Reg. No. 40,992; Jeffrey S. Draeger, Reg. No. 41,000; Cynthia Thomas Faatz, Reg No. 39,973; Christopher Gagne, Reg. No. 36,142; Sharmini N. Green, Reg. No. 41,410; Robert Greenberg, Reg. No. 44,133; Bradley Greenwald, Reg. No. 34,341; Jeffrey B. Huter, Reg. No. 41,086; Seth Z. Kalson, Reg. No. 40,670; Peter Lam, Reg. No. 44,855; Issac Lin, Reg. No. 50,672; David C. Lundmark, Reg. No. 42,815; Anthony Martinez, Reg. No. 44,223; Larry Mennemeier, Reg. No. 51,003; Molly A. Mccall, Reg. No. 46,126; Paul Nagy, Reg. No. 37,896; Michael J. Nesheiwat, Reg. No. 47,819; Dennis A. Nicholls, Reg. No. 42,036; Kathy J. Ortiz, Reg. No. 54,351; Lanny Parker, Reg. No. 44,281; Michael D. Plimier, Reg. No. 43,004; Michael Proksch, Reg. No. 43,021; Kevin A. Reif, Reg. No. 36,381; Crystal D. Sayles, Reg. No. 44,318; Russell C. Scott, Reg. No. 43,103; Justin B. Scout, Reg. No. 54,431; Kenneth M. Seddon, Reg. No. 43,105; Mark Seeley, Reg. No. 32,299; Ami P. Shah, Reg. No. 42,143; David Simon, Reg. No. 32,756; Steven P. Skabrat, Reg. No. 36,279; Howard A. Skaist, Reg. No. 36,008; Paul E. Steiner, Reg. No. 41,326; Joni D. Stutman-Horn, Reg. No. 42,173; David Tran, Reg. No. 50,804; John F. Travis, Reg. No. 43,203; Robert G. Winkle, Reg. No. 37,474; Sharon Wong, Reg. No. 37,760; Steven D. Yates, Reg. No. 42,242; Calvin E. Wells; Reg. No. 43,256; Michael Willardson, Reg. No. 50,856 and Charles K. Young, Reg. No. 39,435; my patent attorneys and my patent agents, of INTEL CORPORATION; with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

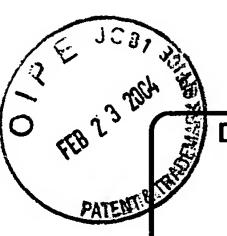
- (a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information, which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:
  - (1) Prior art cited in search reports of a foreign patent office in a counterpart application, and
- The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.
- (b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and
  - (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or

  - (2) It refutes, or is inconsistent with, a position the applicant takes in:

    (i) Opposing an argument of unpatentability relied on by the Office, or
- (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of the stable patentability.

- (c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are: 🔆 🥳 😘 😘 😘 👵 👵
  - (1) Each inventor named in the application;
    - Each attorney or agent who prepares or prosecutes the application; and
    - (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.
    - (d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.
    - (e) In any continuation-in-part application, the duty under this section includes the duty to disclose to the Office all information known to the person to be material to patentability, as defined in paragraph (b) of this section, which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.



# DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION (37 CFR 1.63)

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(37 CFR 1.16(e))
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Attorney Docket Num	ber	42P17746	
First Named Inventor		Sigang Qiu	
	OM	PLETE IF KNOWN	
Application Number	10/655,094		
Filing Date	September 3, 2003		
Art Unit			
Examiner Name			

### As a below named inventor, I hereby declare that:

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•	•			
	(Title of the Invention)			
the specification of which				
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<b>Prior</b>	<b>Foreign</b>	<b>Application</b>	n(s)

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?
				☐ Yes ☐ No
				☐ Yes ☐ No
				☐ Yes ☐ No
				☐ Yes ☐ No
				☐ Yes ☐ No

I hereby appoint the persons listed on Appendix A hereto (which is incorporated by reference and a part of this document) as my respective patent attorneys and patent agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected herewith.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

R FIRST INVENTOR: A petition h	: A petition has been filed for this undersigned inventor		
Sig	ang Qiu		
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	Date		
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Full Name:		valli G. Krishnan	
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Inventorie Signatur		KName (or Surname), a	
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Mailing Address	7604 Sandy Lake Court		(00###7)
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Docket No. 42P1774	46 -3-	,	

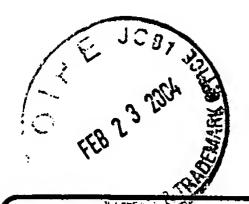
### Appendix A

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No. 54,351; Lanny Parker, Reg. No. 44,281; Michael D. Plimier, Reg. No. 43,004; Michael Proksch, Reg. No. 43,021; Kevin A. Reif, Reg. No. 36,381; Crystal D. Sayles, Reg. No. 44,318; Russell C. Scott, Reg. No. 43,103; Justin B. Scout, Reg. No. 54,431; Kenneth M. Seddon, Reg. No. 43,105; Mark Seeley, Reg. No. 32,299; Ami P. Shah, Reg. No. 42,143; David Simon, Reg. No. 32,756; Steven P. Skabrat, Reg. No. 36,279; Howard A. Skaist, Reg. No. 36,008; Paul E. Steiner, Reg. No. 41,326; Joni D. Stutman-Horn, Reg. No. 42,173; David Tran, Reg. No. 50,804; John F. Travis, Reg. No. 43,203; Robert G. Winkle. Reg. No. 37,474; Sharon Wong, Reg. No. 37,760; Steven D. Yates, Reg. No. 42,242; Calvin E. Wells; Reg. No. 43,256; Michael Willardson, Reg. No. 50,856 and Charles K. Young, Reg. No. 39,435; my patent attorneys and my patent agents, of INTEL CORPORATION; with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

- (a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information, which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:
  - (1) Prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.
- (b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and
  - (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
  - (2) It refutes, or is inconsistent with, a position the applicant takes in:
    - (i) Opposing an argument of unpatentability relied on by the Office, or
    - (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

- (c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:
  - Each inventor named in the application;
  - (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.
- (d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing Information to the attorney, agent, or inventor.
- (e) In any continuation-in-part application, the duty under this section includes the duty to disclose to the Office all information known to the person to be material to patentability, as defined in paragraph (b) of this section, which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.



# DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION (37 CFR 1.63)

Declaration
Submitted
with Initial
Filing

OR

Declaration
Submitted after Initial
Filing (surcharge
(37 CFR 1.16(e))
required)

Attorney Docket Num	ber	42P17746	
First Named Inventor		Sigang Qiu	
	ЮМ	PLETE IF KNOWN	
Application Number	10	0/655,094	
Filing Date	September 3, 2003		
Art Unit			
Examiner Name			

### As a below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below, next to my name.

I believe I am the original and first inventor (if only one name listed below) or an original and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

IETHODS AND APPARATUSES FOR DETERMINING LOOP CHARACTERISTICS USING AN EXTENDED VOICE-BAND MODEM		
	•	
(Title of the Invention)		
the specification of which		
is attached hereto.		
OR		
was filed on (if applicable):		
or <u>09/03/2003</u> as United States Application Number	10/655,094	
PCT International Application Number and was amended on	(if applicable)	

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment specifically referred to above.

I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application. I do not know and do not believe that the claimed invention was in public use or on sale in the United States of America more than one year prior to this application, nor do I know or believe that the invention has been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

Prior	<u>Foreign</u>	Applic	ation	<b>(s</b> ):
				_

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?
				☐ Yes ☐ No
				☐ Yes ☐ No
			. $\square$	☐ Yes ☐ No
				☐ Yes ☐ No
				☐ Yes ☐ No

I hereby appoint the persons listed on Appendix A hereto (which is incorporated by reference and a part of this document) as my respective patent attorneys and patent agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected herewith.

Direct all co	orrespondence to:	☑. Customer Nun	nber <b>08791</b>	or 🔀	Corresponde	ence address below
Name	Tom Van Zandt Blakely, Sokoloff, 7	Taylor & Zafman	LLP			
Address	12400 Wilshire Box	ulevard, 7th Floor				
City	Los Angeles		State California		Zip Code	90025
Country	USA	Telep	phone (408) 720-8300	)	Fax	(408) 720-8383

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE	OR FIRST INVENTOR:	ition has been filed for this undersigned inventor		
Full Name:		Sigang Qiu		
	(First, Middle [if any], Famil	ly Name (or Surname), a	nd Suffix [if any])	
Inventor's Signatur	re	Date		
Residence Ral	eigh, North Carolina USA	Citizenship	Peoples Republic of China	
	(City, State, Country)	<del></del>	(Country)	
Mailing Address	8612 Erinsbrook Drive			
	Raleigh, North Carolina 27617 USA			
	Raleigh, North Carolina 27617 USA			

NAME OF SECON	<b>DINVENTOR:</b> A petition has be	en filed for this un	dersigned inventor
Full Name:			
	(First, Middle [if any], Family	Name (or Surname), a	nd Suffix [if any])
Inventor's Signatur	e	Date	
Residence Rale	eigh, North Carolina USA	Citizenship	India
	(City, State, Country)	<del></del>	(Country)
Mailing Address	#201, 8500 Olde Station Drive		•
_	Raleigh, North Carolina 27615 USA		
NAME OF THIRD	INVENTOR:	en filed for this un	dersigned inventor
Full Name:	Vedava	lli G. Krishnan	
	(First, Middle [if any], Family	Name (or Surname), a	ind Suffix [if any])
Inventor's Signatur	e Vidavill- Knich	Date	Feb, 11, 2004
Residence Rale	eigh, North Carolina USA	Citizenship	USA
	(City, State, Country)		(Country)
Mailing Address	7604 Sandy Lake Court	····	<del></del>
	Raleigh, North Carolina 27613 USA		
NAME OF FOURT	'H INVENTOR:	en filed for this un	dersigned inventor
Full Name:		ley H. Smith	
	(First, Middle [if any], Family	Name (or Surname), a	and Suffix [if any])
Inventor's Signatur	е	Date	
Residence Rale	eigh, North Carolina USA	Citizenship	USA
	(City, State, Country)		(Country)
Mailing Address	8901 White Ashe Court		
	Raleigh, North Carolina 27615 USA		
NAME OF FIFTH	NVENTOR:	een filed for this un	dersigned inventor
Full Name:	<del></del>	yam Krishnan	
	(First, Middle [if any], Family	Name (or Surname), a	ind Suffix [if any])
Inventor's Signatur	е	Date	
Residence Rale	eigh, North Carolina USA	Citizenship	USA
<b>A. 4.1</b>	(City, State, Country)		(Country)
Mailing Address	7604 Sandy Lake Court		
	Raleigh, North Carolina 27613 USA		
Docket No. 42P1774	-3-		

-3-

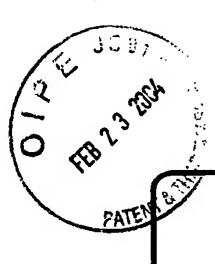
## Appendix A

I hereby appoint with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith, BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP, a firm including: William E. Alford, Reg. No. 37,764; Farzad E. Amini, Reg. No. 42,261; W. Thomas Babbitt, Reg. No. 39,591; Jordan M. Becker, Reg. No. 39,602; Michael A. Bernadicou, Reg. No. 35,934; Roger W. Blakely, Jr., Reg. No. 25,831; R. Alan Burnett, Reg. No. 46,149; Gregory D. Caldwell, Reg. No. 39,926; Cory G. Claassen, Reg. No. 50,296; Thomas M. Coester, Reg. No. 39,637; Mimi D. Dao, Reg. No. 45,628; Stephen M. De Klerk, Reg. No. 46,503; Daniel M. De Vos, Reg. No. 37,813; Sanjeet Dutta, Reg. No. 46,145; Tarek N. Fahmi, Reg. No. 41,402; Thomas S. Ferrill, Reg. No. 42,532; George L. Fountain, Reg. No. 36,374; Adam Furst, Reg. No. 51,710; Angelo J. Gaz, Reg. No. 45,907; Andre M. Gibbs, Reg. No. 47,593; James Y. Go, Reg. No. 40,621; Jason R. Graff, Reg. 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No. 54,351; Lanny Parker, Reg. No. 44,281; Michael D. Plimier, Reg. No. 43,004; Michael Proksch, Reg. No. 43,021; Kevin A. Reif, Reg. No. 36,381; Crystal D. Sayles, Reg. No. 44,318; Russell C. Scott, Reg. No. 43,103; Justin B. Scout, Reg. No. 54,431; Kenneth M. Seddon, Reg. No. 43,105; Mark Seeley, Reg. No. 32,299; Ami P. Shah, Reg. No. 42,143; David Simon, Reg. No. 32,756; Steven P. Skabrat, Reg. No. 36,279; Howard A. Skaist, Reg. No. 36,008; Paul E. Steiner, Reg. No. 41,326; Joni D. Stutman-Horn, Reg. No. 42,173; David Tran, Reg. No. 50,804; John F. Travis, Reg. No. 43,203; Robert G. Winkle, Reg. No. 37,474; Sharon Wong, Reg. No. 37,760; Steven D. Yates, Reg. No. 42,242; Calvin E. Wells; Reg. No. 43,256; Michael Willardson, Reg. No. 50,856 and Charles K. Young, Reg. 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  - (1) Prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.
- (b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and
  - (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
  - (2) It refutes, or is inconsistent with, a position the applicant takes in:
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  - (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.
- (d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing Information to the attorney, agent, or inventor.
- (e) In any continuation-in-part application, the duty under this section includes the duty to disclose to the Office all information known to the person to be material to patentability, as defined in paragraph (b) of this section, which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.



11-FEB-2004 11:44

## **DECLARATION AND POWER OF** ATTORNEY FOR PATENT APPLICATION (37 CFR 1.63)

	Declaration Submitted
_	Submitted
	with Initial
	Fillna

	•
<del>区</del>	Declaration
VY	Submitted after initial
	Filing (surcharge
	(37 CFR 1.16(e))
	mouled)

Attorney Docket Num	ber	42P17746	
First Named Inventor		Sigang Qiu	
	:OM	PLETE IF KNOWN	
Application Number	10	/655,094	
Filing Date	Se	eptember 3, 2003	
Art Unit			
Examiner Name			

#### As a below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below, next to my name.

I believe I am the original and first inventor (if only one name listed below) or an original and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

METHODS AND APPARATUSES FOR DETERMINING LOOP CHARACTERISTICS US MODEM	ING AN EXTENDED VOICE-BAND
(Tile of the Invention)	
the specification of which	
is attached hereto.	
OR	
was filed on (if applicable):  or	10/655,094
and was amended on	(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment specifically referred to above.

I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application. I do not know and do not believe that the claimed invention was in public use or on sale in the United States of America more than one year prior to this application, nor do I know or believe that the invention has been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

i acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

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s my respect rosecute this onnected he	ive patent attomos application and	sys and patent agen	corporate, with	ated by n	☐ Yes ☐ No☐ Yes ☐ No☐ Yes ☐ No☐ Yes ☐ No☐ Perence and a par
s my respect rosecute this onnected he	ive patent attomos application and	sys and patent agen	corporate, with	ated by n	Yes No Yes No
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s my respect rosecute this onnected he	ive patent attomos application and	sys and patent agen	ls, witt	ated by n	eference and a parer of substitution
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n Zandt Sokoloff, Tay	ylor & Zafman LL	P			
geles	Stat	e California		Zip Cod	e 90025
	Telephor	ne (408) 720-8300		Fax	(408) 720-8383
n information knowledge t nt, or both, ur lity of the app	n and belief are b that willful false s nder 18 U.S.C. 1 plication or any pa	elieved to be true; a statements and the li 001 and that such w atent issued thereon	nd furt ke so i illful fa	her that t made are lse state:	these statements punishable by ments may
		Sigang Qiu			
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	vilshire Boule geles  at all stateme on information of knowledge ont, or both, un lity of the app	Vilshire Boulevard, 7th Floor  geles  State  Telephon  at all statements made herein in information and belief are be in knowledge that willful false so int, or both, under 18 U.S.C. 1 lity of the application or any particle.  (First, Middle (if any is)  (City, State, Country)	Telephone (408) 720-8300  at all statements made herein of my own knowled in information and belief are believed to be true; as knowledge that willful false statements and the lint, or both, under 18 U.S.C. 1001 and that such willty of the application or any patent issued thereone INFORT INVENTOR:    A petition has been fill   Sigang Qiu   (Ftrst, Middle (if any), Family Name (or Surn   Date   igh, North Carolina USA   Citizen   (City, State, Country)	State California  Telephone (408) 720-8300  at all statements made herein of my own knowledge are in information and belief are believed to be true; and furth knowledge that willful false statements and the like so int, or both, under 18 U.S.C. 1001 and that such willful fallty of the application or any patent issued thereon.  OR FIRST INVENTOR:  A petition has been filed for Signing Qiu  (First, Middle (if any), Family Name (or Surname), and the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the control of the patent issued the second in the patent issued the second in the patent issued the patent issued the second in the patent issued the patent is patent issued the patent issued the patent issued the patent is patent in the patent is pa	State California  Zip Cod  Telephone (408) 720-8300  Fax  at all statements made herein of my own knowledge are true and in information and belief are believed to be true; and further that it is knowledge that willful false statements and the like so made are not, or both, under 18 U.S.C. 1001 and that such willful false statements are the application or any patent issued thereon.  REFIRST INVENTOR:  A petition has been filed for this under Signing Qiu  (First, Middle [if any], Family Name (or Surname), and Suffix [in the patent is supplied to the patent is under the patent is un

Full Name:		int Pratap Tawade				
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inventor's Sig	nature	Date				
Residence	Raleigh, North Carolina USA	Citizenship India				
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Mailing Addre						
	Raleigh, North Carolina 27615 USA					
NAME OF TH	IIRD INVENTOR:	been filed for this undersigned inventor				
Full Name:		valli G. Krishnan				
	,	ily Name (or Surname), and Suffix [if any])				
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Residence	Raleigh, North Carolina USA (City, State, Country)	Citizenship USA (Country)				
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MENING AUDIT	Raleigh, North Carolina 27613 USA					
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NAME OF FI	FTH INVENTOR:	been filed for this undersigned inventor				
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Full Name:	Mai (First, Middle [if any], Fan	ndayam Krishnan nily Name (or Surname), and Suffix (if any))				
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Full Name: Inventor's Sig	Raleigh, North Carolina USA  (City, State, Country)  7604 Sandy Lake Court	adayam Krishnan  mily Name (or Surname), and Suffix [if any])  Date 2       200    Citizenship USA (Country)				
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### Appendix A

I hereby appoint with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith, BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP, a firm including: William E. Alford, Reg. No. 37,764; Farzad E. Amini, Reg. No. 42,261; W. Thomas Babbitt, Reg. No. 39,591; Jordan M. Becker, Reg. No. 39,602; Michael A. Bernadicou, Reg. No. 35,934; Roger W. Blakely, Jr., Reg. No. 25,831; R. Alan Burnett, Reg. No. 46,149; Gregory D. Caldwell, Reg. No. 39,926; Cory G. Classsen, Reg. No. 50,296; Thomas M. Coester, Reg. No. 39,637; Mimi D. Dao, Reg. No. 45,628; Stephen M. De Klerk, Reg. No. 46,503; Daniel M. De Vos, Reg. No. 37,813; Sanjeet Dutta, Reg. No. 46,145; Tarek N. Fahmi, Reg. No. 41,402; Thomas S. Ferrill, Reg. No. 42,532; George L. Fountain, Reg. No. 36,374; Adam Furst, Reg. No. 51,710; Angelo J. Gaz, Reg. No. 45,907; Andre M. Gibbs, Reg. No. 47,593; James Y. Go, Reg. No. 40,621; Jason R. Graff, Reg. 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Aldous, Reg. No. 31,905; Rob D. Anderson, Reg. No. 33,826; Jay P. Beale, Reg. No. 50,901; Shireen I. Becon, Reg. No. 40,494; R. Edward Brake, Reg. No. 37,784; Ben Burge, Reg. No. 42,372; Robert H. Chang, Reg. No. 48,765; George Chen, Reg. No. 50,807; Glen B. Chol, Reg. No. 43,546; Kenneth Cool, Reg. No. 40,570; Ted A. Crawford, Reg. No. 50,610; Robert A. Diehl, Reg. No. 40,992; Jeffrey S. Draeger, Reg. No. 41,000; Cynthia Thomas Fastz, Reg No. 39,973; Christopher Gagne, Reg. No. 36,142; Sharmini N. Green, Reg. No. 41,410; Robert Greenberg, Reg. No. 44,133; Bradley Greenwald, Reg. No. 34,341; Jeffrey B. Huter, Reg. No. 41,088; Seth Z. Kalson, Reg. No. 40,670; Peter Lam, Reg. No. 44,855; Issac Lin, Reg. No. 50,672; David C. Lundmark, Reg. No. 42,815; Anthony Martinez, Reg. No. 44,223; Larry Mennemeier, Reg. No. 51,003; Molly A. Mccall, Reg. No. 46,126; Paul Nagy, Reg. No. 37,896; Michael J. Nesheiwat, Reg. No. 47,819; Dennis A. Nicholls, Reg. No. 42,036; Kathy J. Ortiz, Reg. 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No. 39,435; my patent attorneys and my patent agents, of INTEL CORPORATION; with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

- (a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being exemined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filling and prosecution of a patent application has a duty of candor and good faith In dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information, which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:
  - (1) Prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.
- (b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and
  - (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a ciaim; or
  - (2) It refutes, or is inconsistent with, a position the applicant takes in:
    - Opposing an argument of unpatentability relied on by the Office, or
    - (ii) Asserting an argument of patentability.

A prima facte case of unpatentability is established when the information compets a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the daim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

- (c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:
  - Each inventor named in the application;
  - Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to essign the application.
- (d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.
- (e) In any continuation-in-part application, the duty under this section includes the duty to disclose to the Office all information known to ion to be material to patentability, as defined in paragraph (b) of this section, prior application and the national or PCT international filing date of the continuation-in-part application.